

Assessing the genetic diversity of Cu resistance in mine tailings through high-throughput recovery of full length *copA* genes

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Running title: Metagenomics for *copA* diversity in mine tailings

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GMTCASC SAR	-----	VLVVACPCA-
GMTCASCSSR	GMTCASCVGRV	VLVVACPCA-
GMTCASCSSR	GMTCASCVGRV	VLVVACPCA-
GMSCASCVGR	GMTCASCVGRV	VLIIACPCA-
GMGCAACAGR	-----	VLIIACPCA-
GMTCAMCVKS	-----	VLVVACPCA-
GMTCASCAGR	-----	VLVIACPCS-
GMTCANCSAR	-----	VLVIACPCA-
GMTCAACSNR	GMTCAACSNRI	VLVIACPCS-
GMTCAACANR	GMTCAACANRV	VLVIACPCA-
GMTCAACAAR	GMTCAACANRI	VLVIACPCA-
G--HACHHEH	-----	VLIIACPCA-
NMNCAGCVAK	-----	VLIIACPCA-
GLSCGHCVKR	GMSCASCVSRV	VLIIACPCA-
GLSCGHCVKR	GMSCASCVTRV	VLIIACPCA-
GLSCGHCVAS	GMSCASCVSKV	VLIIACPCA-
GLSCGHCVAS	GMSCASCVSKV	VLIIACPCA-
GMKCAGCVAA	-----	VLVVACPCA-
HARHQEHGMG	-----	VMVIACPHA-
---HQEHGMG	-----	VMVIACPHA-
---HSGHQKQ	-----	VMVIACPHA-
---CYHGLP	GVSCAACGWLI	LLVATCPCA-
---CYHGLP	GISCAACGWLI	MLVATCPCA-
-----VNR	-----	LLVIGCPGA-
WVRCDSTRRAV	-----	MLLIACPCA-
GMACAFCAST	-----	VSTIAYPCA-
-----	-----	FMVVASPCA-

LHWHGL	PHQH	AHCHL
IHWHGY	YHSH	FHCHD
LHWHGL	MHSH	NHCHN
IHWHGL	YHAH	FHCHH
IHWHGL	YHSH	FHCHQ
IHWHGI	YHSH	FHCHL
VHWHGL	YHSH	YHCHL
LHWHGI	YHSH	YHCHL
IHWHGI	YHSH	YHCHL
IHWHGI	YHSH	YHCHL
IHWHGI	YHSH	YHCHL
IHWHGI	YHSH	YHCHL
IHWHGI	YHSH	YHCHM
IHWHGI	YHSH	YHCHM

100

142

570